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979864

October 14, 2022

Ms. Betsy Nightingale
On-Scene Coordinator
U.S. Environmental Protection Agency
Region 5, Emergency Response Branch 1
2565 Plymouth Road
Ann Arbor, MI 48105

Subject: Summary Report (Revision 0)
BP-Husky Refinery Fire Site – Emergency Response
Oregon, Lucas County, Ohio
EPA START Contract No.: 68-HE-0519-D0005
Task Order-Task Order Line Item No.: F0032-0001DI104
Document Tracking No.: 1431

Dear Ms. Nightingale:

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) is submitting the enclosed Revision 0 of the Summary Report for the BP-Husky Refinery Fire Site (the Site) in Oregon, Lucas County, Ohio. The Summary Report documents the emergency response activities conducted by the Environmental Protection Agency and Tetra Tech START at the Site on September 20 and 21, 2022, and documents ongoing Site conditions reported to EPA by BP-Husky for a period of time after the fire.

If you have any questions or comments regarding this report, please contact me at (330) 620-4422 or Dustin.Grams@tetrattech.com.

Sincerely,

A handwritten signature in black ink, appearing to be 'Dustin Grams'.

Dustin Grams
Project Manager

Enclosure

cc: Chris Burns, Tetra Tech START Program Manager
TO/TOLIN File

**SUMMARY REPORT
BP-HUSKY REFINERY FIRE SITE EMERGENCY RESPONSE
OREGON, LUCAS COUNTY, OHIO**

Revision 0

Prepared for

U.S. Environmental Protection Agency
Superfund and Emergency Management Division
Region 5
2565 Plymouth Road
Ann Arbor, MI 48105

Prepared by

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CONTENTS

1.0	INTRODUCTION	1
2.0	SITE LOCATION AND DESCRIPTION	2
3.0	TIMELINE OF EMERGENCY RESPONSE ACTIVITIES.....	2
	THE FOLLOWING TIMELINE OUTLINES THE EVENTS THAT OCCURRED DURING EACH DAY OF THE RESPONSE. TUESDAY SEPTEMBER 20, 2022:.....	4
	WEDNESDAY SEPTEMBER 21, 2022:	4
4.0	BP-HUSKY MONITORING ACTIVITIES	5
4.1	BP-Husky Air Monitoring	5
4.2	BP-Husky Drainage, Outfalls and Outfall Monitoring	5
5.0	SUMMARY	6
6.0	REFERENCES	7

Appendices

A	FIGURES
B	TABLE

Attachments

1	BP-HUSKY AIR MONITORING DATA SUMMARY TABLE AND FIGURE
2	BP-HUSKY FACILITY DRAINAGE MAPS
3	BP-HUSKY OUTFALL INSPECTION DATA SUMMARY TABLE AND INSPECTION REPORTS

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) Region 5 Superfund and Emergency Management Division tasked Tetra Tech, Inc. (Tetra Tech) to conduct emergency response air monitoring support at the BP-Husky Refinery Fire Site (the Site) under Superfund Technical Assessment and Response Team (START) Contract No. 68-HE-0519-D005, Task Order-Task Order Line-Item Number (TO-TOLIN) F0032-0001DI104. The Site is an oil and gas refinery in Oregon, Lucas County, Ohio (Appendix A, Figure 1). A fire occurred at the site on September 20, 2022.

EPA tasked START to assist EPA with air monitoring at 14 locations off site. Air monitoring locations were selected around the Site perimeter and within a neighborhood where residents had reported odors earlier on the evening of September 20, 2022. On September 21, 2022, EPA and START conducted four rounds of air monitoring at each location. No elevated levels of volatile organic compounds (VOCs), hydrogen sulfide (H₂S), lower explosive limit (LEL), carbon monoxide (CO), benzene, or airborne particulates were detected during air monitoring.

The primary goal of the EPA and START emergency response was to assess and measure hazardous constituents released from the fire and to monitor ongoing Site conditions for a 13 day period of time after the fire.

As part of the response, START performed the following:

- Conducted mobile air monitoring at 14 points off site.
- Documented monitoring activities conducted by the site personnel.
- Documented and summarized the findings in a summary report.

This report is organized into the following sections:

- Section 1.0 introduces the scope of work related to the emergency response.
- Section 2.0 provides a summary of the Site's location and description.
- Section 3.0 describes a timeline of emergency response activities.
- Section 4.0 describes BP-Husky monitoring activities.
- Section 5.0 summarizes response activities.
- Section 6.0 provides references.

In addition, this report contains three appendices and three attachments. Appendix A contains figures showing the Site location, Site layout, and START air monitoring locations. Appendix B contains a summary of air monitoring data collected by EPA/START. Attachment 1 contains air monitoring

measurements collected by BP-Husky and a figure depicting air monitoring locations. Attachment 2 contains BP-Husky facility drainage and outfall maps. Attachment 3 contains the BP-Husky outfall inspection summary table and associated inspection reports provided by BP-Husky.

2.0 SITE LOCATION AND DESCRIPTION

The Site is an oil and gas refinery at 4001 Cedar Point Road in Oregon, Lucas County, Ohio, south of the confluence of Maumee Bay and the north extent of the Maumee River. The geographic coordinates of the approximate center of the Site 41°40'48.99" north latitude and -83°27'7.87" west longitude (Appendix A, Figure 1). At the time of the fire, the Site encompasses a working refinery surrounded by a security fence (Appendix A, Figure 2). The Site is operated by BP-Husky and access is controlled by a locked entry gate. The Site is bounded on the north and west by an active railroad line and Otter Creek beyond; to the east by residential housing and agricultural fields; and to the south by commercial and industrial properties (Envirosafe Services of Ohio and Oregon Clean Energy Center) (Appendix A, Figure 2).

3.0 TIMELINE OF EMERGENCY RESPONSE ACTIVITIES

At approximately 18:45 on September 20, 2022, a fire and presumed explosion occurred at the Site. EPA received two National Response Center (NRC) reports from the facility that day - An earlier NRC report from the refinery, received at 3:42 PM reported that hydrogen sulfide (H₂S) and sulfur dioxide (SO₂) was releasing to the air due to a failure of a piece of refinery process equipment (exchanger) at 8:00 AM that morning, and the facility was working to repair the leak [NRC #: 1347790]. At 10:05 PM EDT the facility submitted an NRC report update stating that a fire had occurred at the facility but had been extinguished, that there were 2 injuries associated with this incident, that the refinery had been shut down, and SO₂ and H₂S continue to be released [NRC #: 1347829]. The City of Oregon Fire Department responded alongside BP-Husky facility personnel. EPA received a request for air monitoring support from the City of Oregon Fire Department.

EPA mobilized to the site to conduct assessment, air monitoring and work with the facility to ensure that runoff associated with the incident was not discharged to nearby surface waters, and requested START assistance with the response.

Upon EPA arrival on site at around 11:30 PM EDT on September 20, 2022, EPA confirmed that the fire had been extinguished, and the air plume appeared to have dissipated. The Oregon Fire Department had demobilized.

EPA met facility personnel who provided the following information:

Facility personnel stated that they were still investigating the cause of the fire but believed that a release of liquid and vapor from the fuel gas mix drum ignited causing the fire, at approximately 6:30 PM.

Facility personnel indicated that Refinery operations had been shut down pending detailed facility inspection and development of a facility re-start plan. Flaring was continuing, and fire watch was ongoing. Facility staff indicated that they believed that the fire was isolated to the south area - large crude unit.

Facility staff stated that all fire-fighting and site stormwater runoff is captured in the facility drainage system that flows to the on site waste water treatment plant (WWTP) (entire facility drains to this treatment plant), but were unable to produce a legible copy of a drainage map for the facility so that EPA could verify this. Staff stated that the WWTP uses a 5-step treatment process - a) separation; b) air flotation; c) activated bio. sludge; d) clarifier; and e) sand filter then discharges through a cooling channel into Lake Erie.

Facility staff stated that they had conducted some on-site air monitoring for H₂S (ppm), CO (ppm), O₂ (%), LEL (%) and VOC (ppm) at ground level using the Refinery's standard 5-gas monitor at 8:55 PM and at 10:30 PM. Staff reported that no elevated levels were detected except for a maximum of 20 ppm CO near the Alky2 unit and a maximum of 1.4 ppm VOCs near the Alky 1 unit during the 8:55 PM monitoring round. No offsite or fenceline monitoring was conducted.

Facility staff stated that they were unsure if per- and polyfluoroalkyl substances (PFAS) containing foam had been used in fire fighting operations. Facility staff later clarified that during the event, BP-Husky operations used approximately 35 gallons of firefighting foam that contains anywhere between 1-5% PFAS by weight per the SDS.

Under direction of EPA, START established 14 air monitoring locations (Appendix A, Figure 3). Air monitoring locations were selected at the Site perimeter and in a neighborhood where residents had reported odors earlier in the evening. EPA and START conducted air monitoring with a handheld DustTrak, MultiRAE Pro, and UltraRAE 3000. The handheld DustTrak is capable of measuring particulate matter (PM₁₀), with an aerodynamic diameter equal to or less than 10 micrometers and (PM_{2.5}) with an aerodynamic diameter equal to or less than 2.5 micrometer concentrations in real time. RAE Systems MultiRAE Pro measures LEL, H₂S, CO, O₂, and VOCs real time, and the RAE Systems UltraRAE 3000s includes benzene tubes that measure benzene levels down to 50 parts per billion (ppb) real time. Tetra Tech conducted instrument calibration and monitoring in accordance with Tetra Tech's START Quality Assurance Project Plan (QAPP) and the site-specific Tetra Tech Health and Safety Plan (HASP) (Tetra Tech 2022a and 2022b). EPA/START conducted four rounds of air monitoring at each air monitoring location between approximately 01:00 and 04:15 on September 21, 2022. No air monitoring measurements were documented above the action levels (19.5% > O₂ > 23.5%, LEL > 10%, CO > 25.0 parts per million [ppm], H₂S > 0.5 ppm, VOC > 5.0 ppm for 5 minutes, or benzene > 1.0 ppm) established in the Tetra Tech HASP (Tetra Tech 2022b) and World Health Organization (WHO) 24-hour mean air quality guideline

values for particulate matter (PM) 2.5 of 0.015 milligrams per cubic meter (mg/m³), and PM10 of 0.045 mg/m³ (WHO 2021). The table in Appendix B summarizes EPA/START air monitoring results.

THE FOLLOWING TIMELINE OUTLINES THE EVENTS THAT OCCURRED DURING EACH DAY OF THE RESPONSE. Tuesday September 20, 2022:

- At 20:55, BP-Husky conducted air monitoring during the fire. BP-Husky monitored air for H₂S, CO, O₂, LEL, and VOCs on the inside Site perimeter and the process block. BP-Husky reported CO at 8 ppm and VOCs at 1.4 ppm along the inside perimeter, and CO at 15 to 20 ppm along the process block. BP-Husky reported LEL, H₂S, CO, and VOCs measurements collected from all other locations were zero and O₂ measurements were within background. Attachment 1 shows BP-Husky air monitoring results and locations.
- At 21:20, two START staff from the Detroit, Michigan, and two START staff from the Cleveland, Ohio, offices were deployed for response.
- At 22:30, the BP-Husky air monitoring was repeated with all levels being zero, or within the normal range (O₂).
- At 23:30, EPA On-Scene Coordinator (OSC) Nightingale arrived on site and initiated a meeting with BP-Husky and Ohio EPA personnel. EPA observed that the fire was extinguished, and flares continued to vent.

Wednesday September 21, 2022:

- At 01:05, one START staff arrived on site. START and EPA selected locations for mobile air monitoring. START and EPA conduct the first round of air monitoring at Stations 1 through 10.
- At 1:30, a second START staff arrived on-site. START and EPA discussed air monitoring to be conducted at the Site.
- At 1:45, a third START staff arrived on-site. START calibrated two handheld DustTrak units, two MultiRAE units, and two UltraRAE units with benzene tubes for mobile monitoring.
- At 2:00 and 2:15, BP-Husky reported LEL, H₂S, CO, and VOCs measurements recorded from all locations were zero and O₂ measurements were within 20.9% to 21.3%. BP-Husky conducted inspections and collected photographic documentation of the outfalls. EPA/START continued mobile air monitoring of air monitoring Stations 1 through 14.
- At 2:30, a fourth START staff arrived on-site.. A second team of START personnel began monitoring of Stations 11 through 14.
- By 4:10, EPA/START had completed four rounds of mobile monitoring. All air monitoring measurements were below action levels.

-
- START demobilized at 4:30.
- EPA demobilized from the Site at 5:15.
- BP-Husky continued air monitoring. At 09:35, the BP-Husky air monitoring was repeated with all levels being zero, or within the normal range (O₂).

4.0 BP-HUSKY MONITORING ACTIVITIES

BP-Husky monitoring activities and associated information received from BP-Husky are summarized in Sections 4.1 and 4.2 and included in Attachments 1, 2, and 3.

4.1 BP-Husky Air Monitoring

BP-Husky facility staff stated that they conducted on-site air monitoring for H₂S, CO, O₂, LEL, and VOCs at ground level using the BP-Husky standard 5-gas monitor. The staff conducted the air monitoring at 20:55 and 22:30 on September 20, 2022. BP-Husky facility staff reported that no levels above background were detected except for a maximum of 20 ppm CO and a maximum of 1.4 ppm VOCs near the fire during the 20:55 monitoring round. BP-Husky facility staff reported repeating the on-site monitoring at 02:00, 02:15, and 09:35 on September 21, 2022, with no measurements detected above background during those monitoring rounds (Attachment 1). BP-Husky facility staff reported that they did not conduct any air monitoring off site or at the property fence line.

4.2 BP-Husky Drainage, Outfalls and Outfall Monitoring

On September 21, 2022, EPA submitted a second request to BP-Husky for a legible copy of the facility drainage map. The facility drainage maps depict all stormwater and firefighting runoff flow pathways to the on-site wastewater treatment plant (WWTP) (Attachment 2). EPA also requested that the BP-Husky facility staff initiate regular and frequent visual inspection of all facility outfalls to surface waters to ensure that no sheen, oil, or other unusual characteristics (including unusual color, odor, foaming, or debris) were observed in discharges. EPA requested these observations and photos of the discharge from each outfall be provided to EPA, OEPA, and the City of Oregon after each survey.

At 19:19 on September 21, BP-Husky provided legible facility drainage maps to EPA and initiated an inspection of Outfall 002 four times a day (Attachment 2). BP-Husky also began providing daily summaries of outfall observations to EPA, OEPA, and the City of Oregon (Attachment 3).

BP-Husky also provided one drainage map to EPA that depicted five outfalls (Outfall 001, 601, 602, 603, and 604), in addition to Outfall 002. EPA requested more information about these five outfalls, including the approximate transmission time for runoff to flow from the fire to the WWTP and out to the outfall.

BP-Husky provided additional information indicating that Outfall 603 is an emergency outfall used in case of catastrophic flooding, has not been used for an extended period of time, and is not in use now. Outfalls 604, 601, and 602 are monitoring points for wastewater along the flow path to the WWTP and Outfall 001 is not in use. BP-Husky initially stated that it takes approximately 40 minutes for runoff to flow from the fire to the WWTP and out to the outfall, but later corrected that to an average of 22 hours (with a range of 19-35 hours). Attachment 3 includes a table summarizing all outfall investigations conducted by BP-Husky. BP-Husky's outfall inspection reports are also included in Attachment 3.

5.0 SUMMARY

A summary of the emergency response activities completed at the Site on September 20 and 21, 2022, is provided below.

- START began mobilizing on September 20 and arrived at the Site on September 21.
- START supported the EPA OSC in establishing air monitoring locations.
- EPA and START conducted mobile air monitoring for benzene, LEL, H₂S, CO, VOCs, O₂, and particulate matter at the Site.
- EPA and START developed figures depicting air monitoring locations.

6.0 REFERENCES

Tetra Tech, Inc. (Tetra Tech). 2022a. “Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), Contract No. 68HE0519D0005, U.S. Environmental Protection Agency, Region 5, Revision 3.” January.

Tetra Tech. 2022b. “Health and Safety Plan – BP-Husky Refinery Fire Site ER.” September 20.

World Health Organization (WHO). 2021. “Air Quality Guideline Values.” September 22. Online Address: [https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health)

APPENDIX A
SITE FIGURES

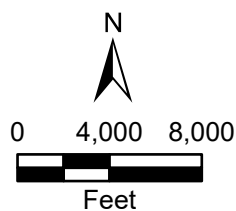


Reference Map



Legend

 Site Boundary



Source: USGS National Map

BP-Husky Refinery Fire Site - ER
4001 Cedar Point Road
Oregon, Lucas County, Ohio

Figure 1
Site Location Map



Prepared For: US EPA

Prepared By: Tetra Tech, Inc.

Date: 09/30/2022

EPA Contract No.: 68HE0519D0005

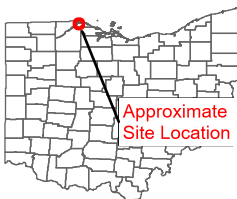
TO-TOLIN: F0032-0001D104

Coordinate System: WGS 1984
Datum: D 1984
Units: Degrees

C:\Users\JORDAN\Documents\ArcGIS\Projects\BP Refinery Fire Site\ER\BP Refinery Fire Site ER.aprx

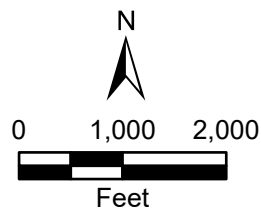


Reference Map



Legend

Site Boundary



Source: Google Earth

BP-Husky Refinery Fire Site - ER
4001 Cedar Point Road
Oregon, Lucas County, Ohio

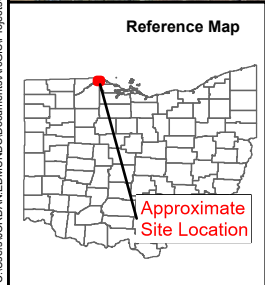
Figure 2
Site Layout Map



Prepared For: US EPA

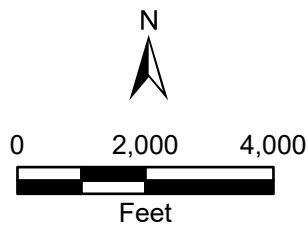
Prepared By: Tetra Tech, Inc.

Coordinate System: WGS 1984
Datum: D 1984
Units: Degrees



Legend

- Air Monitoring Locations
- Site Boundary



Source: Google Earth

BP-Husky Refinery Fire Site - ER
4001 Cedar Point Road
Oregon, Lucas County, Ohio

Figure 3
Air Monitoring Location Map



Prepared For: US EPA

Prepared By: Tetra Tech, Inc.

APPENDIX B

TABLE

Table 1
EPA/START Air Monitoring Results
BP-Husky Refinery Fire Site - Emergency Response
Oregon, Ohio

Date	Time	Station	PM 2.5 (mg/m ³)	PM 10 (mg/m ³)	O ₂ %	LEL %	CO (ppm)	H ₂ S (ppm)	VOC (ppm)	Benzene (ppm)
9/21/2022	1:35	1	0.003	0.005	20.9	0	0	0	0	not collected
9/21/2022	2:53	1	0.005	0.007	20.9	0	0	0	0	0
9/21/2022	3:22	1	0.005	0.007	20.9	0	0	0	0	0
9/21/2022	3:48	1	0.004	0.006	20.9	0	0	0	0	0
9/21/2022	1:39	2	0.004	0.006	20.9	0	0	0	0	not collected
9/21/2022	2:56	2	0.004	0.005	20.9	0	0	0	0	0
9/21/2022	3:26	2	0.003	0.004	20.9	0	0	0	0	0
9/21/2022	3:52	2	0.005	0.009	20.9	0	0	0	0	0
9/21/2022	1:41	3	0.005	0.006	20.9	0	0	0	0	not collected
9/21/2022	2:59	3	0.006	0.008	20.9	0	0	0	0	0
9/21/2022	3:29	3	0.006	0.005	20.9	0	0	0	0	0
9/21/2022	3:55	3	0.004	0.004	20.9	0	0	0	0	0
9/21/2022	1:46	4	0.005	0.007	20.9	0	0	0	0	not collected
9/21/2022	3:01	4	0.005	0.005	20.9	0	0	0	0	0
9/21/2022	3:31	4	0.005	0.006	20.9	0	0	0	0	0
9/21/2022	3:57	4	0.008	0.007	20.9	0	0	0	0	0
9/21/2022	1:48	5	0.007	0.007	20.9	0	0	0	0	not collected
9/21/2022	3:03	5	0.009	0.007	20.9	0	0	0	0	0
9/21/2022	3:33	5	0.004	0.011	20.9	0	0	0	0	0
9/21/2022	3:59	5	0.005	0.006	20.9	0	0	0	0	0
9/21/2022	1:50	6	0.008	0.01	21.3	0	0	0	0	not collected
9/21/2022	3:04	6	0.005	0.004	20.9	0	0	0	0	0
9/21/2022	3:35	6	0.007	0.003	20.9	0	0	0	0	0
9/21/2022	4:01	6	0.006	0.007	20.9	0	0	0	0	0
9/21/2022	1:52	7	0.005	0.006	21.2	0	0	0	0	not collected
9/21/2022	3:06	7	0.005	0.005	20.9	0	0	0	0	0
9/21/2022	3:37	7	0.003	0.004	20.9	0	0	0	0	0
9/21/2022	4:03	7	0.005	0.007	20.9	0	0	0	0	0
9/21/2022	1:54	8	0.004	0.006	20.9	0	0	0	0	not collected
9/21/2022	3:08	8	0.006	0.006	20.9	0	0	0	0	0
9/21/2022	3:40	8	0.005	0.006	20.9	0	0	0	0	0
9/21/2022	4:06	8	0.005	0.006	20.9	0	0	0	0	0
9/21/2022	1:56	9	0.005	0.006	20.9	0	0	0	0	not collected
9/21/2022	3:12	9	0.004	0.005	20.9	0	0	0	0	0
9/21/2022	3:42	9	0.003	0.004	20.9	0	0	0	0	0
9/21/2022	4:08	9	0.004	0.005	20.9	0	0	0	0	0
9/21/2022	1:58	10	0.004	0.006	20.9	0	0	0	0	not collected
9/21/2022	3:14	10	0.005	0.005	20.9	0	0	0	0	0
9/21/2022	3:44	10	0.005	0.004	20.9	0	0	0	0	0
9/21/2022	4:10	10	0.004	0.003	20.9	0	0	0	0	0
9/21/2022	2:25	11	0.007	0.009	20.9	0	0	0	0	not collected
9/21/2022	3:06	11	0.007	0.007	21.3	0	0	0	0	0
9/21/2022	3:30	11	0.006	0.006	20.9	0	0	0	0	0
9/21/2022	3:54	11	0.005	0.005	20.9	0	0	0	0	0
9/21/2022	2:28	12	0.001	0.011	20.9	0	0	0	0	not collected
9/21/2022	3:10	12	0.006	0.007	20.9	0	0	0	0	0
9/21/2022	3:32	12	0.005	0.008	20.9	0	0	0	0	0
9/21/2022	3:57	12	0.006	0.008	20.9	0	0	0	0	0
9/21/2022	2:30	13	0.014	0.017	20.9	0	0	0	0	not collected
9/21/2022	3:13	13	0.006	0.006	20.9	0	0	0	0	0
9/21/2022	3:34	13	0.005	0.005	20.9	0	0	0	0	0
9/21/2022	3:59	13	0.007	0.007	20.9	0	0	0	0	0
9/21/2022	2:34	14	0.012	0.017	20.9	0	0	0	0	not collected
9/21/2022	3:16	14	0.008	0.014	20.9	0	0	0	0	0
9/21/2022	3:37	14	0.006	0.006	20.9	0	0	0	0	0
9/21/2022	4:02	14	0.007	0.007	20.9	0	0	0	0	0
Action Levels			0.015 mg/m ³	0.045 mg/m ³	<19.5% or >23.5%	10%	25.0 ppm	0.5 ppm	5.0 ppm for 5 minutes	1.0 ppm

Notes:
CO - Carbon Monoxide
H₂S - Hydrogen Sulfide
O₂ - Oxygen
ppm - Parts per million
VOC - Volatile organic compounds
LEL- Lower explosive limit
PM 2.5 and PM 10 action levels are World Health Organization (WHO) 24-hour average air quality guideline values (WHO 2021).
O₂, LEL, CO, H₂S, VOC, and benzene action levels taken from Tetra Tech Health and Safety Plan (HASP) (Tetra Tech 2022b)

ATTACHMENT 1

BP-HUSKY AIR MONITORING DATA SUMMARY TABLE AND FIGURE

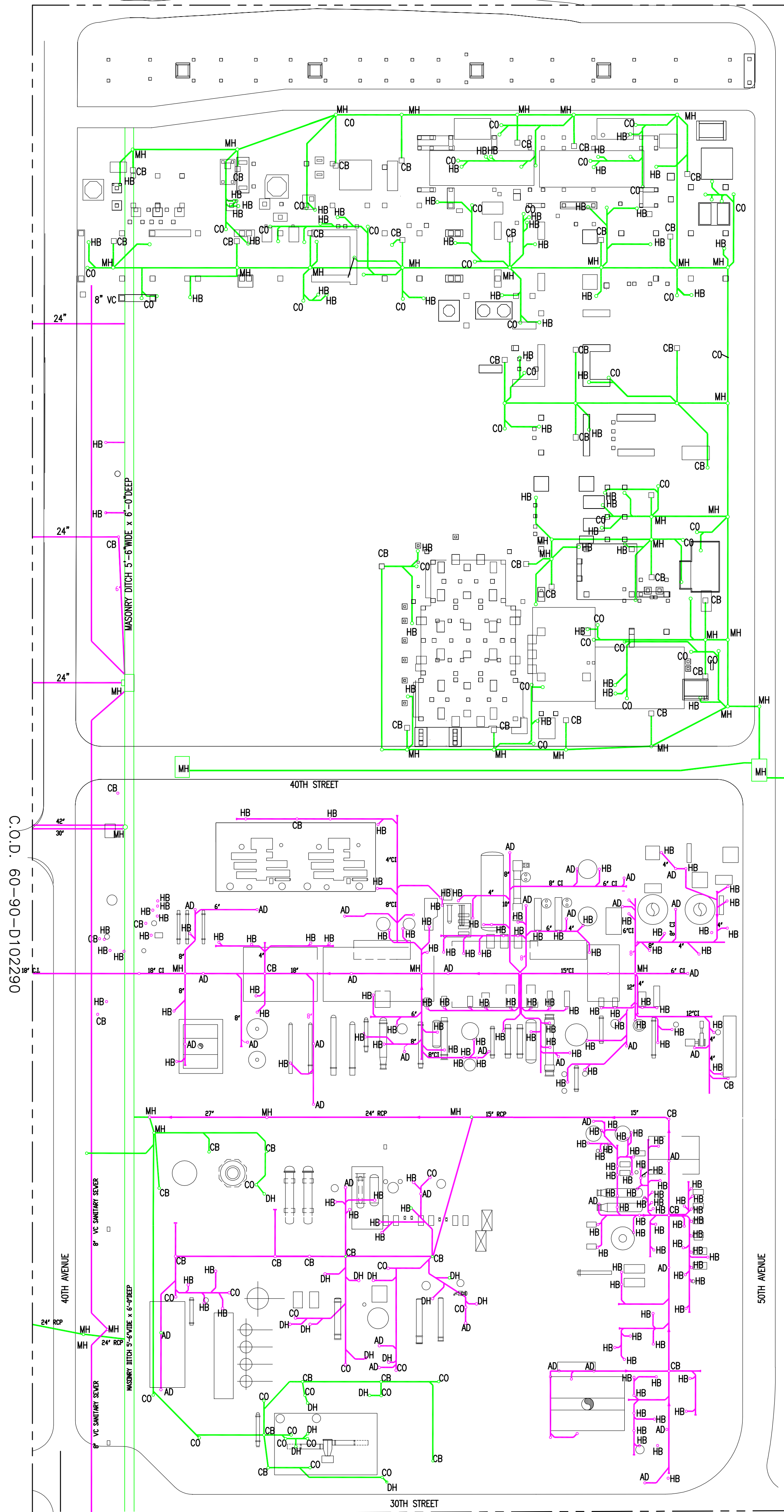
Table 2
BP-Husky Air Monitoring Results
BP-Husky Refinery Fire Site - Emergency Response
Oregon, Ohio

Date	Time	H ₂ S (ppm)	CO (ppm)	O ₂ %	LEL %	VOC (ppm)	Notes
Inside Perimeter (Yellow Path)							
9/20/2022	20:55	0	8	Normal Range	0	1.4	Green Star on map
9/20/2022	22:30	0	0	Normal Range	0	0	
9/21/2022	2:00	0	0	Normal Range	0	0	
9/21/2022	9:35	0	0	Normal Range	0	0	
Process Block (Pink Path)							
9/20/2022	20:55	0	15-20	Normal Range	0	0	Blue Star on map
9/20/2022	22:30	0	0	Normal Range	0	0	
9/21/2022	2:15	0	0	Normal Range	0	0	
9/21/2022	9:35	0	0	Normal Range	0	0	

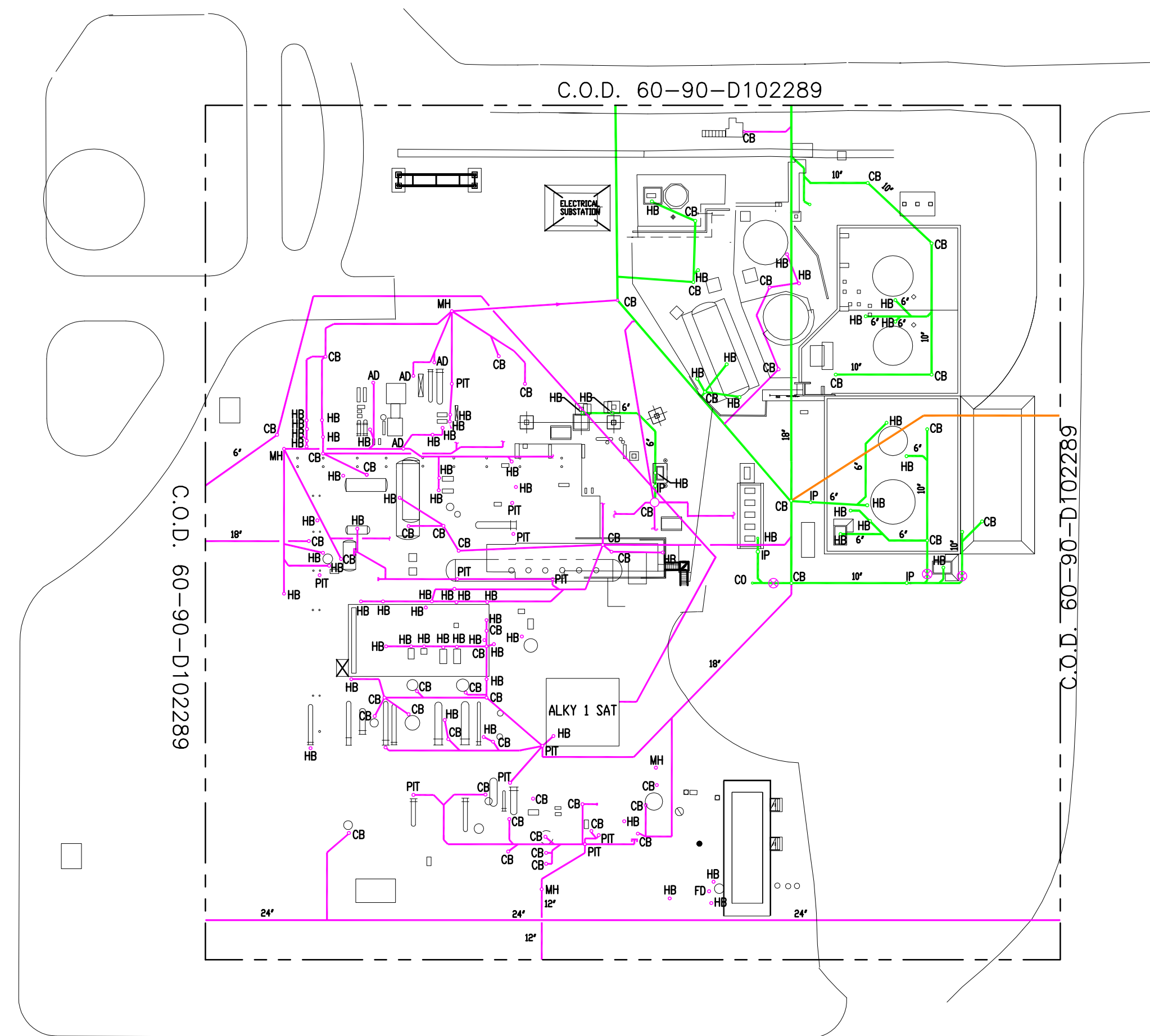
ATTACHMENT 2

BP-HUSKY FACILITY DRAINAGE MAPS

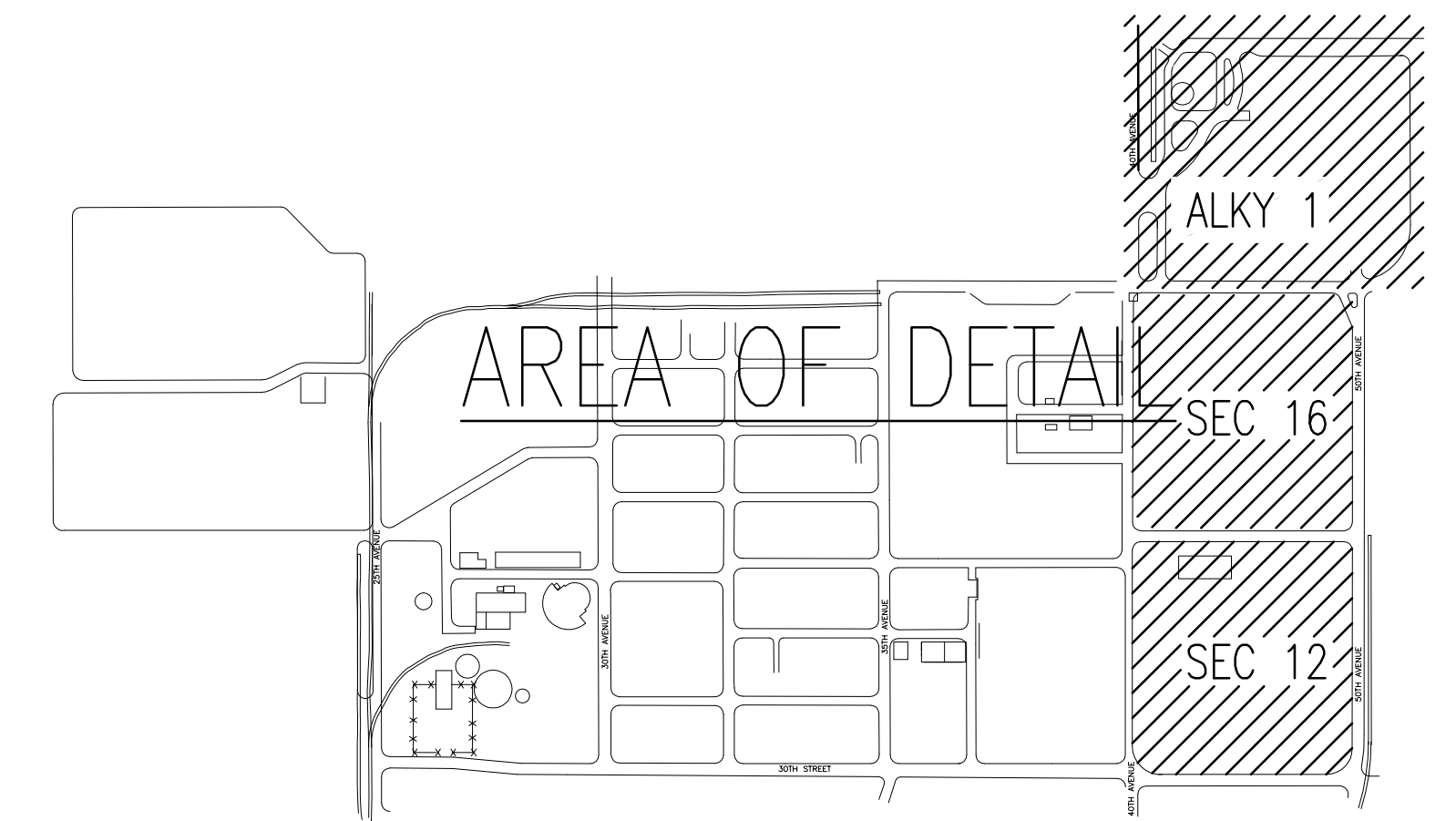
C.O.D. 60-90-D102289



ENLARGED PLAN SECTIONS 12 & 16

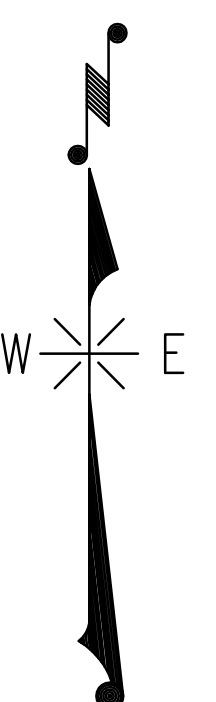



ENLARGED PLAN ALKY 1 AREA



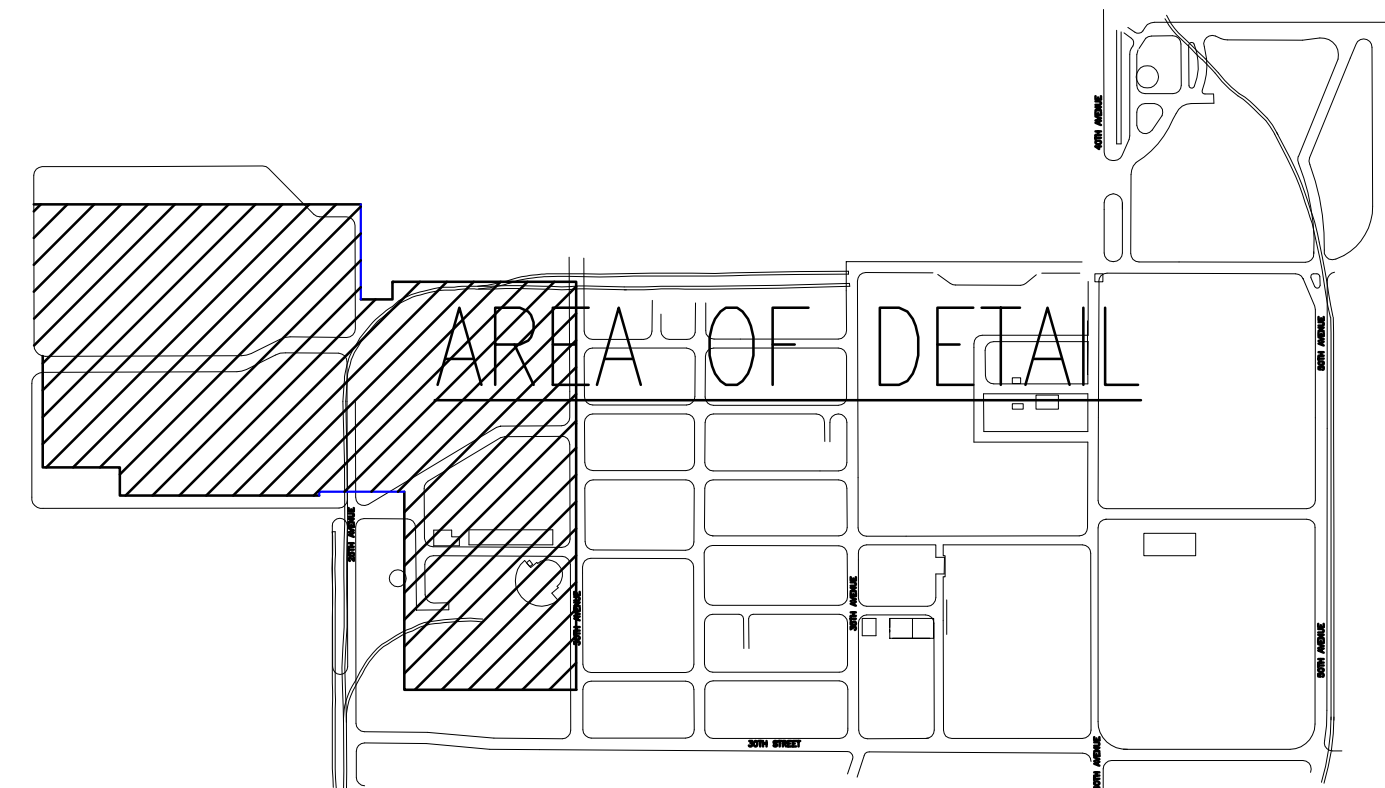
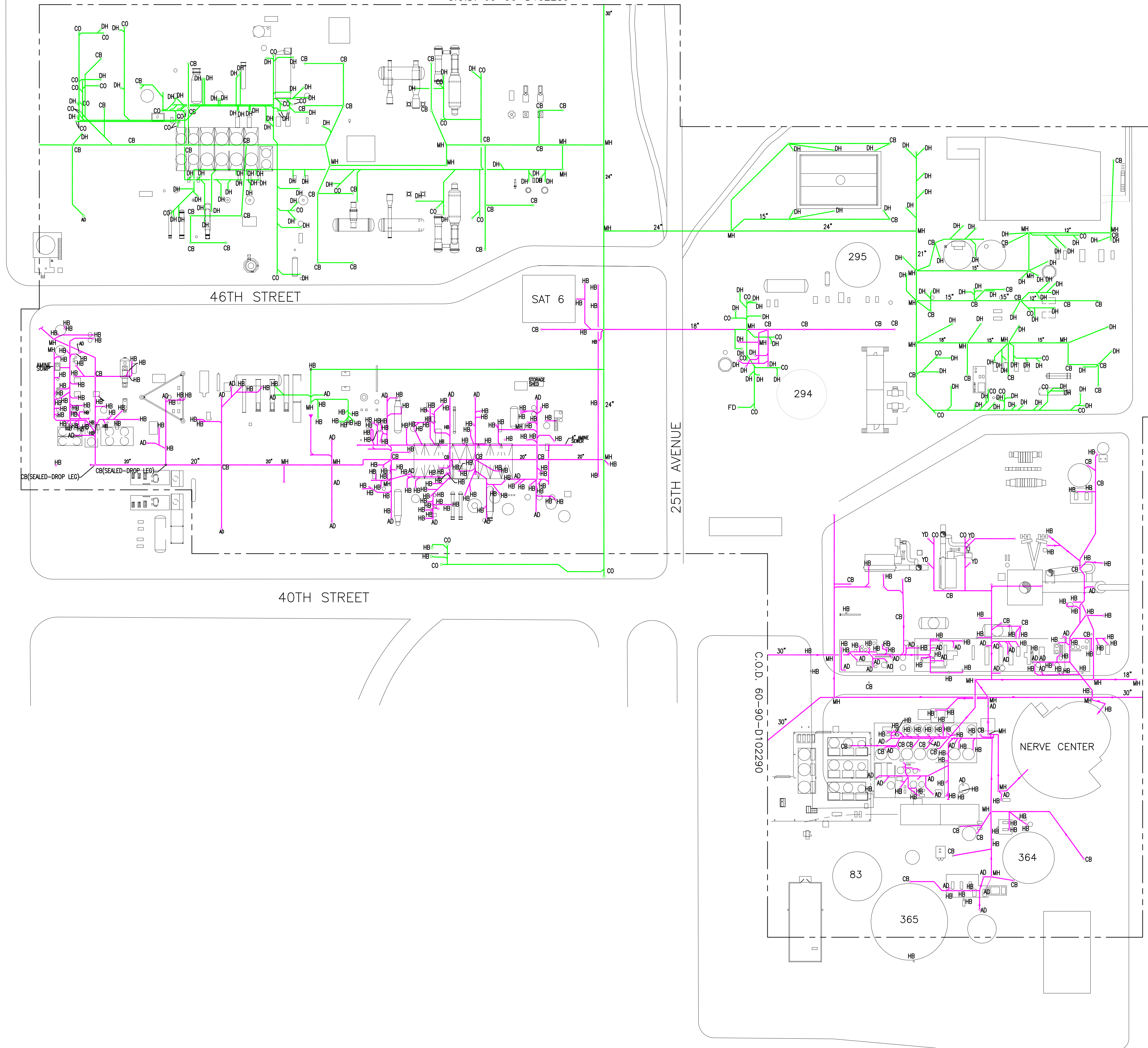
LEGEND

- ● ● CATCH BASIN/HUB BASIN/AREA DRAIN/YARD DRAIN
- ○ ○ MANHOLE/SUMP/PIT/JUNCTION BOX/LIFT STATION
- ▲ PLUG
- ◇ REDUCER
- ◇ VALVE
- DT DRAIN TILE
- IPV INDICATING POST VALVE
- WS WATER STRAINER
- AD AREA DRAIN
- CB CATCH BASIN
- DR DRAIN
- EMH ELECTRICAL MANHOLE
- HB HUB BASIN
- JB JUNCTION BOX
- LS LIFT STATION
- MH MANHOLE
- YD YARD DRAIN
- DH DRAIN HUB
- CO CLEAN OUT
- FD FLOOR DRAIN
- IP INSPECTION PORT
- QQQ SEWER
- NON-QQQ SEWER
- ABANDONED SEWER



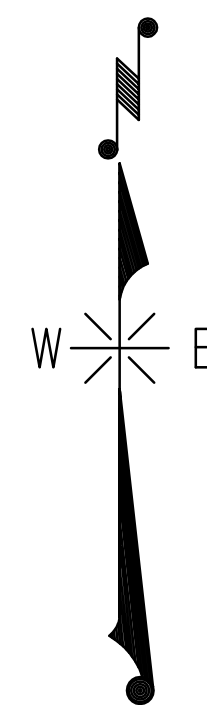
1	THW/CH	4/23/18	AS BUILT	JN	2015-163
0	CJS	10/12/06	AS BUILT		
NO	BY	DATE	REVISIONS	APPR	PROG
TOLEDO REFINERY 					
EPA MAPS					
QQQ SEWERS					
UNDERGROUND SEWER SYSTEM					
EAST AREA					
DRWN	DATE DRWN	CHECKED	DATE CHG.	APPROVED	DATE APPR.
CDG	7/18/06				
BY/PROG/REV	ISSUING NO.				
1					
60-90-D200014					1


C.O.D. 60-90-D102289



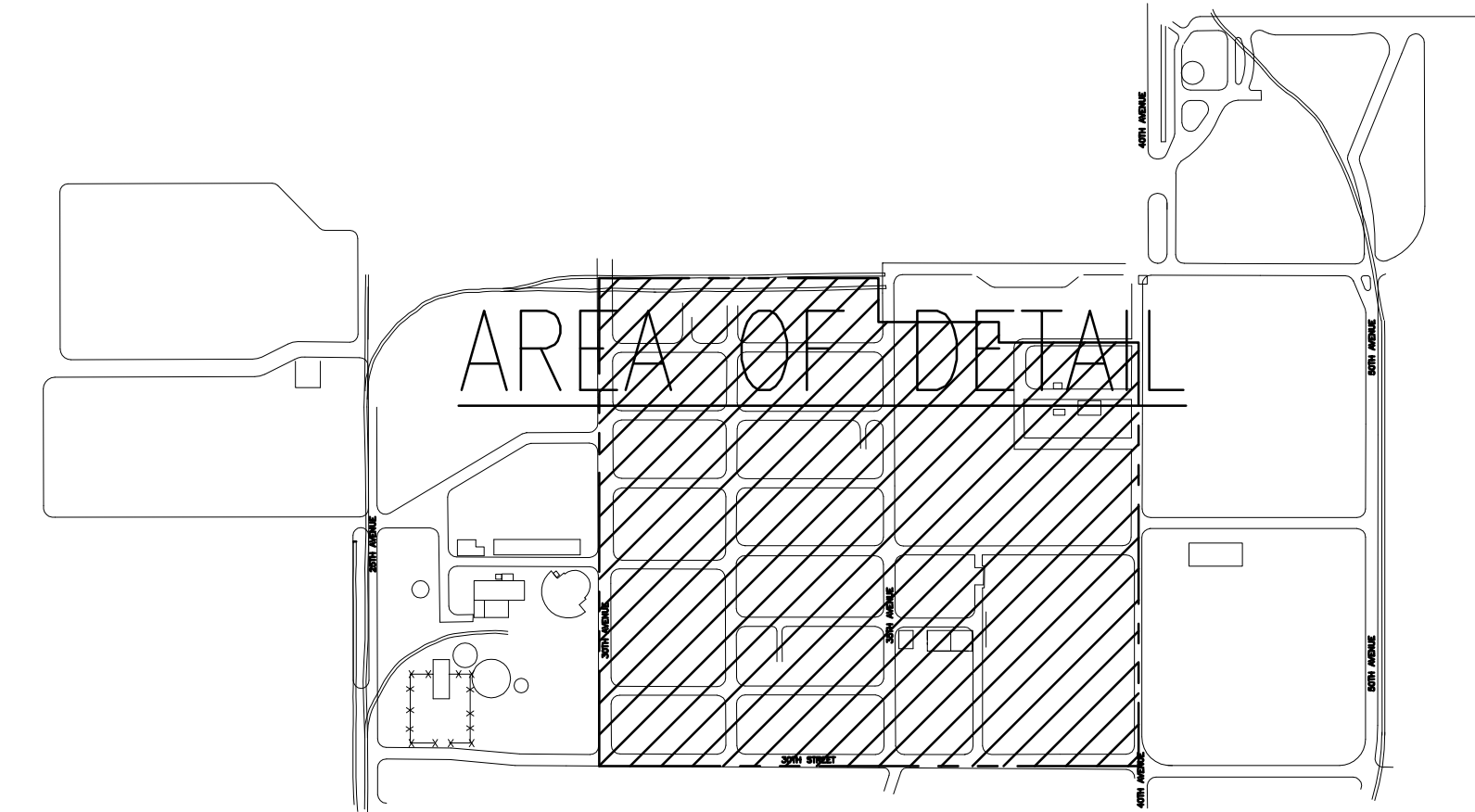
LEGEND

- CATCH BASIN/HUB BASIN/AREA DRAIN/YARD DRAIN
- MANHOLE/SUMP/PIT/JUNCTION BOX/LIFT STATION
- ▲ PLUG
- ▼ REDUCER
- ⊗ VALVE
- DT DRAIN TILE
- IPV INDICATING POST VALVE
- WS WATER STRAINER
- AD AREA DRAIN
- CB CATCH BASIN
- DR DRAIN
- EMH ELECTRICAL MANHOLE
- HB HUB BASIN
- JB JUNCTION BOX
- LS LIFT STATION
- MH MANHOLE
- YD YARD DRAIN
- DH DRAIN HUB
- CO CLEAN OUT
- FD FLOOR DRAIN
- QQQ SEWER
- NON-QQQ SEWER
- ABANDONDED SEWER



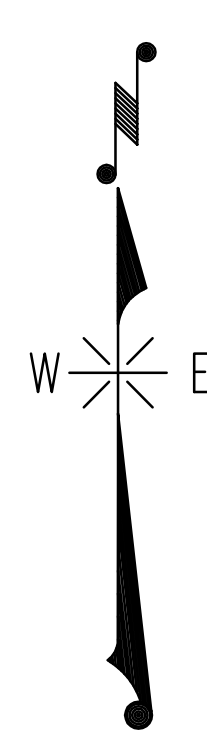
1	THW/CH	4/23/18	AS BUILT	JN	2015-163
0	CJS	10/12/06	AS BUILD		
NO	BY	DATE	REVISIONS	APPR.	PROG.
TOLEDO REFINERY 					
EPA MAPS					
DESCRIPTION					
QQQ SEWERS					
UNDERGROUND SEWER SYSTEM					
WEST TIU					
DRWN	DATE DRWN	CHECKED	DATE CHD.	APPROVED	DATE APP.
CDG	7/18/06				
NO. OF SHEETS	DATE	NO.	NO.	NO.	NO.
60-90-D200015					
1					

C.O.D. 60-90-D102289



LEGEND

- CATCH BASIN/HUB BASIN/AREA DRAIN/YARD DRAIN
- MANHOLE/SUMP/PIT/JUNCTION BOX/LIFT STATION
- ▲ FILLED WITH GROUT
- PLUG
- ▼ REDUCER
- ◇ VALVE
- DT DRAIN TILE
- IPV INDICATING POST VALVE
- WS WATER STRAINER
- AD AREA DRAIN
- CB CATCH BASIN
- DR DRAIN
- EMH ELECTRICAL MANHOLE
- HB HUB BASIN
- JB JUNCTION BOX
- LS LIFT STATION
- MH MANHOLE
- YD YARD DRAIN
- DH DRAIN HUB
- CO CLEAN OUT
- FD FLOOR DRAIN
- IP INSPECTION PORT
- QQQ SEWER
- NON-QQQ SEWER
- ABANDONDED SEWER



2		THW/DH 4/23/18	AS BUILT	JN 2015-163
1	CJS	10-12-06	DIVIDED DWG. INTO (3) DWGS.	
NO	BY	DATE	REVISIONS	APPR. PROJ. #
TOLEDO REFINERY				
EPA MAPS				
UNDERGROUND SEWER SYSTEM				
QQQ SEWERS				
DRAWN	DATE	CHECKED	DATE	APPROVED
CDG	7/18/06			
DATE	DATE	DATE	DATE	DATE
7/18/06	7/18/06	7/18/06	7/18/06	7/18/06
60-90-D102290				2

#BQ1791



1. SEWER IS PLUGGED WITH A HEAVY SLUDGE.

LEGEND

- ■ ■ CATCH BASIN/HUB BASIN/AREA DRAIN/YARD DRAIN
 □ □ □ MANHOLE/SUMP/PIT/JUNCTION BOX/LIFT STATION
 ▲ PLUG
 ▼ REDUCER
 ● VALVE
 DT DRAIN TILE
 IPV INDICATING POST VALVE
 WS WATER STRAINER
 AD AREA DRAIN
 CB CATCH BASIN
 CO CLEANOUT
 DR DRAIN
 EMH ELECTRICAL MANHOLE
 HB HUB BASIN
 JB JUNCTION BOX
 LS LIFT STATION
 MH MANHOLE
 YD YARD DRAIN
 CV CHECK VALVE
 FD FRENCH DRAIN
 DI DUCTILE IRON
 VP VENT PIPE
 ——— QQQ SEWER
 ——— NON—QQQ SEWER
 ——— ABANDONED SEWER

4	ARV	1/7/09	CORRECTIONS PER BP COMMENTS		
3	CJS	10/12/06	UPDATED UNDERGROUND LINES		
2	MDD	7/0/06	REVISED SEWER LINES		
5	THW/CAF	4/23/18	AS BUILT	JN	2015-16
NO	BY	DATE	REVISIONS	APPR.	PROG.

TOLEDO REFINERY



UNIT FPA MAPS

DESCRIPTION
QQQ SEWERS
UNDERGROUND SEWER SYSTEM

DRIVEN	DATE DRIVEN 1/16/95	CHECKED	DATE CHKD.	APPROVED	DATE APPR.
HTL/PW22-8/PL2.2 DRAWING NO. 60-90-D102289 SCALE 1" = 300'					REV. 5

ATTACHMENT 3

**BP-HUSKY OUTFALL INSPECTION DATA SUMMARY TABLE AND
INSPECTION REPORTS**

Table 3
BP-Husky Outfall 002 Inspection Report
BP-Husky Refinery Fire Site - Emergency Response
Oregon, Ohio

Date	Time	Sheen Present	Unusual Color Present	Foaming Present	Odor Present	Debris Present	Notes	Photo Provided
9/21/2022	19:00	N	N	N	N	N	N/A	Y
9/22/2022	3:30	N	N	N	N	N	N/A	Y
9/22/2022	9:00	N	N	N	N	N	N/A	Y
9/22/2022	15:00	N	N	N	N	N	N/A	Y
9/22/2022	18:00	N	N	N	N	N	N/A	Y
9/23/2022	2:30	N	N	N	N	N	N/A	Y
9/23/2022	8:00	N	N	N	N	N	N/A	Y
9/23/2022	15:30	N	N	N	N	N	N/A	Y
9/23/2022	21:15	N	N	N	N	N	N/A	Y
9/24/2022	3:00	N	N	N	N	N	N/A	Y
9/24/2022	11:45	N	N	N	N	N	N/A	Y
9/24/2022	15:45	N	N	N	N	N	N/A	Y
9/24/2022	18:27	N	N	N	N	N	N/A	Y
9/25/2022	1:47	N	N	N	N	N	N/A	Y
9/25/2022	18:30	N	N	N	N	N	N/A	Y
9/26/2022	1:35	N	N	N	N	N	N/A	Y
9/26/2022	11:00	N	N	N	N	N	N/A	Y
9/26/2022	15:30	N	N	N	N	N	N/A	Y
9/26/2022	17:30	N	N	N	N	N	N/A	Y
9/27/2022	3:00	N	N	N	N	N	Nothing Unusual	Y
9/27/2022	13:00	N	N	N	N	N	N/A	Y
9/28/2022	9:30	N	N	N	N	N	N/A	Y
9/29/2022	13:00	N	N	N	N	N	N/A	Y
9/30/2022	23:55	N	N	N	N	N	N/A	Y
10/1/2022	13:40	N	N	N	N	N	N/A	Y
10/2/2022	13:20	N	N	N	N	N	N/A	Y
10/3/2022	10:00	N	N	N	N	N	N/A	Y

REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

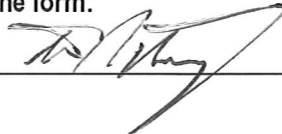
Performed By	Steve Hoyt	Date	9/21/2022
Title	Environmental Advisor	Time	1900

Yes	No	Question
	X	Is there a sheen present?
	X	Is there an unusual color?
	X	Is there foaming present?
	X	Is there an unusual odor present?
	X	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

None

Signature of person completing the form:



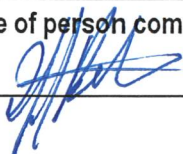
REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	J. Belegriw	Date	9-22-22
Title	OPERATOR WWTU	Time	0330

Yes	No	Question
	X	Is there a sheen present?
	X	Is there an unusual color?
	X	Is there foaming present?
	X	Is there an unusual odor present?
	X	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	W SHAMP	Date	9.22.22
Title	OPERATOR	Time	0900

Yes	No	Question
	<input checked="" type="checkbox"/>	Is there a sheen present?
	<input checked="" type="checkbox"/>	Is there an unusual color?
	<input checked="" type="checkbox"/>	Is there foaming present?
	<input checked="" type="checkbox"/>	Is there an unusual odor present?
	<input checked="" type="checkbox"/>	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	M SHARP	Date	9.22.22
Title	OPERATOR	Time	1500

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	Karlvetts White	Date	9-22-22
Title	WWTU operator	Time	1800

Yes	No	Question
	<input checked="" type="checkbox"/>	Is there a sheen present?
	<input checked="" type="checkbox"/>	Is there an unusual color?
	<input checked="" type="checkbox"/>	Is there foaming present?
	<input checked="" type="checkbox"/>	Is there an unusual odor present?
	<input checked="" type="checkbox"/>	Is there debris present?
NOTE ANY UNUSUAL CHARACTERISTICS: NONE		

Signature of person completing the form:	Karlvetts White
--	-----------------

REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	Karlottis White	Date	9-23-22
Title	Operator	Time	2:30

Yes	No	Question
	<input checked="" type="checkbox"/>	Is there a sheen present?
	<input checked="" type="checkbox"/>	Is there an unusual color?
	<input checked="" type="checkbox"/>	Is there foaming present?
	<input checked="" type="checkbox"/>	Is there an unusual odor present?
	<input checked="" type="checkbox"/>	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:	NONE

Signature of person completing the form:	Karlottis White
--	-----------------

REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	NEWMISTER	Date	9/23
Title	OPERATOR	Time	0800

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:

Rn

REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	NEWMISTAL	Date	9/23
Title	OPS	Time	330

Yes	No	Question
	<input checked="" type="checkbox"/>	Is there a sheen present?
	<input checked="" type="checkbox"/>	Is there an unusual color?
	<input checked="" type="checkbox"/>	Is there foaming present?
	<input checked="" type="checkbox"/>	Is there an unusual odor present?
	<input checked="" type="checkbox"/>	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	<i>Bob Edwards</i>	Date	<i>9/23/22</i>
Title	<i>Operator</i>	Time	<i>9:15 PM</i>

Yes	No	Question
	<input checked="" type="checkbox"/>	Is there a sheen present?
	<input checked="" type="checkbox"/>	Is there an unusual color?
	<input checked="" type="checkbox"/>	Is there foaming present?
	<input checked="" type="checkbox"/>	Is there an unusual odor present?
	<input checked="" type="checkbox"/>	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:

Bob Edwards

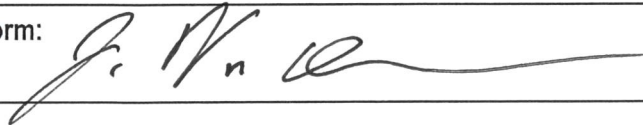
REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	Jeremy Van Doren	Date	9-24-22
Title	OPS Supervisor	Time	0300

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



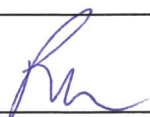
REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	NEWMASTER	Date	9/24
Title	OPS	Time	1145 AM

Yes	No	Question
	<input checked="" type="checkbox"/>	Is there a sheen present?
	<input checked="" type="checkbox"/>	Is there an unusual color?
	<input checked="" type="checkbox"/>	Is there foaming present?
	<input checked="" type="checkbox"/>	Is there an unusual odor present?
	<input checked="" type="checkbox"/>	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	NEWMASTER	Date	3/24
Title	OPS	Time	345 PM

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:	
--	---

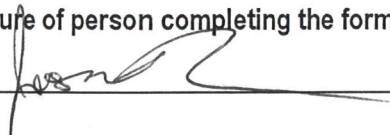
REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	Prange, Jason	Date	9-24-22
Title	ops	Time	1827

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	Jason Prange	Date	9-25-22
Title	ops	Time	0147

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?
NOTE ANY UNUSUAL CHARACTERISTICS:		

Signature of person completing the form:
--



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	Karlottis White	Date	9-25-22
Title	Operator	Time	6:30 pm

Yes	No	Question
	X	Is there a sheen present?
	X	Is there an unusual color?
	X	Is there foaming present?
	X	Is there an unusual odor present?
	X	Is there debris present?
NOTE ANY UNUSUAL CHARACTERISTICS: none		

Signature of person completing the form:	Karlottis White
--	-----------------

REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	Jeremy Van Doren	Date	9-26-22
Title	Operations	Time	0135

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

None

Signature of person completing the form:

J. Van Doren

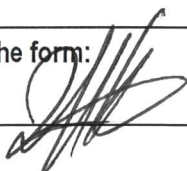
REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	J. Belegri	Date	9-26-2d
Title	WWTU Operator	Time	11:00 Am

Yes	No	Question
	X	Is there a sheen present?
	X	Is there an unusual color?
	X	Is there foaming present?
	X	Is there an unusual odor present?
	X	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



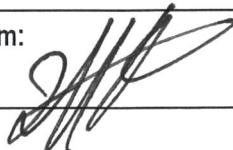
REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	J. Belegriw	Date	9-26-22
Title	WWTU Operator	Time	15:30

Yes	No	Question
	X	Is there a sheen present?
	X	Is there an unusual color?
	X	Is there foaming present?
	X	Is there an unusual odor present?
	X	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	Karlotta White	Date	9-26-22
Title	Operator	Time	1730

Yes	No	Question
	<input checked="" type="checkbox"/>	Is there a sheen present?
	<input checked="" type="checkbox"/>	Is there an unusual color?
	<input checked="" type="checkbox"/>	Is there foaming present?
	<input checked="" type="checkbox"/>	Is there an unusual odor present?
	<input checked="" type="checkbox"/>	Is there debris present?
NOTE ANY UNUSUAL CHARACTERISTICS: NONE		

Signature of person completing the form:
--

Karlotta White

REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	Jeremy Van Doren	Date	9-07-02
Title	Operations Supervisor	Time	0300

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Nothing unusual observed.

Signature of person completing the form:

J. Van Doren


REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	J. Belegrin	Date	9-27-22
Title	WWTU operator	Time	13:00 AM

Yes	No	Question
	X	Is there a sheen present?
	X	Is there an unusual color?
	X	Is there foaming present?
	X	Is there an unusual odor present?
	X	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



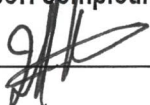
REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	J. Belgrin	Date	9-28-22
Title	WWTP operator	Time	0930

Yes	No	Question
	<input checked="" type="checkbox"/>	Is there a sheen present?
	<input checked="" type="checkbox"/>	Is there an unusual color?
	<input checked="" type="checkbox"/>	Is there foaming present?
	<input checked="" type="checkbox"/>	Is there an unusual odor present?
	<input checked="" type="checkbox"/>	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



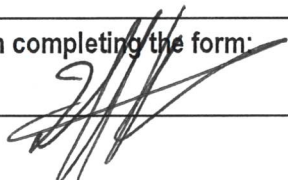
REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	J. Belegriw	Date	9-29-22
Title	WWTV Operator	Time	13:00

Yes	No	Question
	X	Is there a sheen present?
	X	Is there an unusual color?
	X	Is there foaming present?
	X	Is there an unusual odor present?
	X	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	Shawn Sutherland	Date	9:30.22
Title	Operator	Time	11:55pm

Yes	No	Question
	<input checked="" type="checkbox"/>	Is there a sheen present?
	<input checked="" type="checkbox"/>	Is there an unusual color?
	<input checked="" type="checkbox"/>	Is there foaming present?
	<input checked="" type="checkbox"/>	Is there an unusual odor present?
	<input checked="" type="checkbox"/>	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Signature of person completing the form:

Shawn Sutherland

REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)


Performed By	Jeremy Van Doren	Date	10-1-22
Title	Operations Supervisor	Time	1340

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Nothing unusual detected @ 002 outfall.

Signature of person completing the form:



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

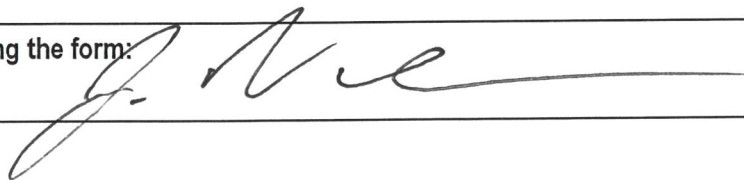
Performed By	Jeremy Van Doren	Date	10-2-22
Title	Operations Supervisor	Time	1320

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

Nothing unusual, everything looks good & normal @ 002 outfall.

Signature of person completing the form:



REFINERY EFFLUENT OUTFALL 2IG0000702 (Outfall 002)

Performed By	JOSH LUCIO	Date	10/3/22
Title	T-4	Time	1000

Yes	No	Question
	✓	Is there a sheen present?
	✓	Is there an unusual color?
	✓	Is there foaming present?
	✓	Is there an unusual odor present?
	✓	Is there debris present?

NOTE ANY UNUSUAL CHARACTERISTICS:

N/A

Signature of person completing the form:

